United States Department of the Interior

BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OFFICE
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Telephone: (541) 756-0100 Toll Free: (888) 809-0839 Fax: (541) 751-4303

TAKE PRIDE IN AMERICA

In Reply Refer To:
1792 (OR-120)

January 9, 2009

Dear Concerned Citizen:

The USDI, Bureau of Land Management (BLM), Coos Bay District Office, has prepared an Environmental Assessment for the Spruce Reach Island Culvert installation, EA# OR-125-08-05. The proposed action is to install a culvert for safe access from Highway 38 to Spruce Reach Island, across from the Dean Creek Elk Viewing Area. The access will provide the Bureau with the opportunity to maintain the garden on the island that is potentially eligible for inclusion onto the National Register of Historic Places. The proposed project involves placing a 10 x 66 foot culvert between the island and the highway. A road surface over the pipe will be laid for vehicle access.

The EA concluded in a Finding of No Significant Impact (FONSI). Copies of the EA and FONSI may be obtained from the address/phone numbers listed below, or at BLM Coos Bay District's home page at www.blm.gov/or/districts/coosbay. Public comments on the appropriateness of the FONSI are being requested until February 13, 2009. Questions should be directed to Nancy Zepf at (541) 756-0100. Written comments may be sent to BLM at 1300 Airport Lane, North Bend, OR 97459 Attn: N. Zepf or e-mailed to us at OR_CoosBay_Mail@blm.gov Attn: N. Zepf.

Comments, including names and street addresses of respondents, will be available for public review at the above address during regular business hours (8:00 a.m. to 4:30 p.m.), Monday through Friday, except holidays, and may be published as part of the EA document or other related documents. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under Freedom of Information Act, you must state this prominently at the beginning of your written comment. Such requests will be honored to the extent allowed by law. All submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

Sincerely,

/s/ A. Dennis Turowski

A. Dennis Turowski
Umpqua Field Manager

United States Department of the Interior
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TAKE PRIDE IN AMERICA

In Reply Refer To:
1792 (OR-120)
EA-OR-125-08-05

Finding of No Significant Impact (FONSI)
For
Spruce Reach Island Culvert Environmental Assessment
EA#OR-125-08-05

Introduction

The United States Department of Interior, Bureau of Land Management (BLM), Coos Bay District, has prepared an Environmental Assessment (EA) that analyzes potential impacts for a culvert installation to Spruce Reach Island. The purpose of the project is to provide safe vehicular access to the site which contains potentially historic gardens that need maintenance.

The EA evaluates the environmental elements impacted by the culvert installation as well as the expected outcome of the project. The EA also describes the project design features that will be incorporated in order to minimize the potential for adverse environmental harm to occur during project implementation.

Background

The Coos Bay District of the Bureau of Land Management is under the direction of the Coos Bay District Proposed Resource Management Plan Final Environmental Impact Statement (USDI 1994) and its Record of Decision (USDI 1995), the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl (Northwest Forest Plan [NFP]) and its ROD (USDA/USDI 1994) as supplemented and amended by:

> *Management of Port-Orford – cedar in Southwest Oregon Final Supplemental Environmental Impact Statement* (USDA/USDI 2004), and its *Record of Decision* (USDI 2004).
>
> *The Final Supplement to The 2004 Environmental Impact Statement to Remove or Modify The Survey and Manage Mitigation Measure Standards and Guidelines* (USDA/USDI 2007) and its *Record of Decision* (USDI 2007).

Activity resulting from the proposed action would be subject to State of Oregon Administrative Rule No. 340-108, *Oil and Hazardous Materials Spills and Releases,* which specifies the reporting requirements, cleanup standards and liability that attaches to a spill or release or threatened spill or release involving oil or hazardous substances. In addition, the Coos Bay District Hazardous Materials Contingency Plan and Spill Plan for Riparian Operations apply when applicable to operations where a release threatens to reach surface waters or is in excess of reportable quantities.

Finding of No Significant Impact

A careful review of the EA, which I herein adopt, indicates that there will not be a significant impact on the quality of the human environment from the implementation of the Proposed Action. I agree with this conclusion and determined that an Environmental Impact Statement (EIS) will not be prepared. This determination is based on consideration of the following factors:

1. The proposed activities will occur in localized areas within the boundaries of the Coos Bay District. The proposed activities are not national or regional in scope.

2. The proposed activities will not significantly affect public health and safety. Best Management Practices incorporating spill kits and containment plans as described in the EA will minimize the risk to water quality. In addition, notifications in the event of a release threatening waterways are to be made in accordance with the BLM Coos Bay District Riparian Spill Plan, and Oregon DEQ Administrative Rule (OAR) 340-142, Oil and Hazardous Materials Spills and Releases.

3. The proposed activities will not have an impact on unique characteristics of the geographic area such as energy development, air quality, prime unique farmlands, environmental justice/native American trust resources, wild & scenic rivers/wilderness, Port Orford cedar, or special status areas. The project area is located on previously disturbed sites and utilizing the project design features would help to ensure minimal impacts to the natural environment.

4. The effects on the quality of the human environment of the proposed activities are not highly controversial.

5. The possible effects of the proposed activity on the quality of the human environment are not highly uncertain and do not involve unique or unknown risk.

6. The proposed project does not establish a precedent for actions with future significant effects or represent a decision in principle about a future consideration.

7. There are no significant cumulative effects identified by this assessment.

8. The proposed activity will not negatively affect districts, sites, highways, structures, or objects listed in, or eligible for listing in, the National Register of Historic Places. Nor will it cause a loss or destruction of significant scientific, cultural, or historical resources.

9. The project will fully comply with the Endangered Species Act (ESA) of 1973, as amended.

10. The project is consistent with the conservation needs of Special Status Species (SSS) and will not contribute to the need to list any SSS, either under the provisions of the ESA or other provisions of the manual (BLM Manual 6840.02).

11. There are no irreversible or irretrievable resource commitments identified by this assessment.

12. The proposed activity will not violate Federal, State, or local laws imposed for the protection of the environment.

/s/ A. Dennis Turowski ***January 9, 2009***

A. Dennis Turowski
Umpqua Field Manager

Date

Spruce Reach Island Culvert

Environmental Assessment
EA No. OR125-08-05
December, 2008

Umpqua Field Office
Coos Bay District
Bureau of Land Management

Table of Contents

List of Acronyms

ARS	American Rhododendron Society
BLM	Bureau of Land Management
BO	Biological Opinion
DCEVA	Dean Creek Elk Viewing Area
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
O&C	Oregon and California
ODOT	Oregon Department of Transportation
ORNHIC	Oregon Natural Heritage Information Center
RMP	Resource Management Plan
ROD	Record of Decision
SRI	Spruce Reach Island
SSS	Special Status Species
T&E	Threatened and Endangered Species
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFWS	United States Fish and Wildlife Service

Chapter 1. Purpose and Need for Action

Background

Spruce Reach Island (SRI) comprises approximately 57 acres of land in the lower Umpqua River adjacent to the Dean Creek Elk Viewing Area (DCEVA) at Umpqua River miles 4-5. Until the late 1960s, the island was owned by the Hinsdale family, a family with roots in lower Umpqua River commerce and navigation which began in the 1850s. After World War II, O.H. Hinsdale began developing an unique rhododendron garden around the house on his estate, located on the east end of Spruce Reach Island. While they owned the estate, a one-lane wooden bridge provided access to the island from State Highway 38.

After sale of the property an historic evaluation (Beckham 1996) concluded that neither the garden nor the house were eligible for inclusion onto the National Register of Historic Places (NRHP), which is the BLM measure of historic importance. Therefore, routine garden maintenance was not kept up. However, a recent evaluation by representatives from the American Rhododendron Society (ARS) has led to a different conclusion:

> Despite many plants having been lost, we feel the collection remains a significant one. The plants' age and size alone greatly enhance their value as a unique asset... I know of only two other collections in Oregon which might approach this status; they are at Crystal Springs in Portland and Hendricks Park in Eugene. It is also our belief most of the plants may be returned to better health and live for many years through restoration work and then relatively routine maintenance thereafter." (Letter to M. Elaine Raper, Umpqua Field Office Manager, dated January 12, 2006, by Gordon Wylie, past president of the ARS).

A second letter by a European rhododendron expert goes on to explain the significance of the garden:

> The layout of the garden and its plantings has been very carefully orchestrated and, in reality, they are in the style of a traditional English Country House and its Woodland Gardens. All the structural elements for this style of garden are in-situ; that is, plantings of specific trees for shelter from the wind, and plantings of specific trees to form an overhead canopy to produce a dappled effect of sun and shade. The entrance drive area, from the bridge at the highway to the front of the house, contain the appropriate level of formality in regard to the plantings in the 'island' beds, and also in the borders...The same attention to detail and care is reflected in the plantings that were made in formal and woodland areas of the garden.
> (Letter to M. Elaine Raper, Umpqua Field Office Manager, dated June 22, 2006, by John Hammond, ARS Alternate Director at Large)

In a 2/11/2007 memorandum to Ms. Raper, the cultural resource specialist suggested that based on the evidence provided by Mr. Hammond and Mr. Wylie, we should now conclude that the garden is potentially eligible for inclusion onto the NRHP (as a significant cultural landscape).

In a memorandum dated 3/17/2007, Ms. Raper formally agreed that the Umpqua Field Office would henceforth consider the garden as potentially eligible, and therefore begin to maintain and restore it, as required for potentially eligible historic properties.

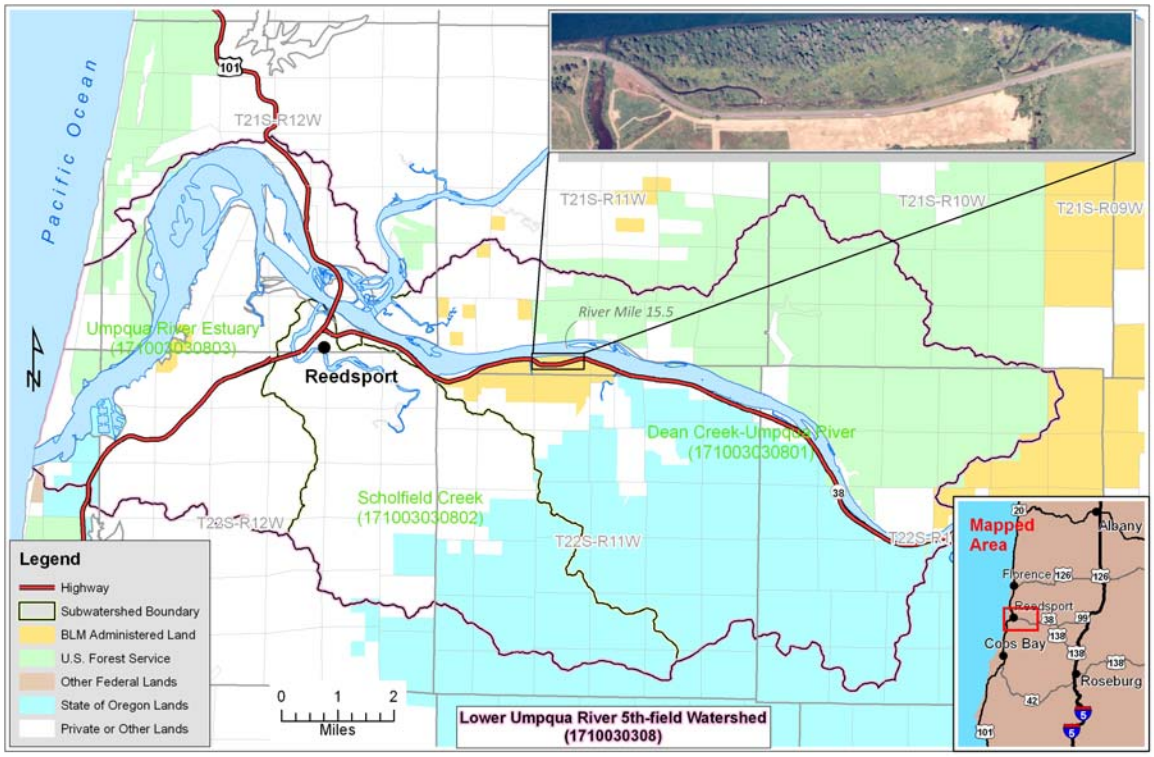
During the last ten years, damage from highway maintenance work and continued deterioration of the wooden bridge has forced demolition and removal of the structure, eliminating access to the island. Without road access, routine maintenance and restoration of the garden would be difficult, if not impossible.

Proposed Action

The Proposed Action is to install a 10-foot by 66-foot culvert in an unnamed, tidally-influenced tributary to the Umpqua River and construct a 20-foot wide by 110-foot long road over the pipe between Highway 38 and Spruce Reach Island. The BLM would also restore 0.07 acre of intertidal wetland habitat to mitigate for filling 0.07 acre of intertidal wetland habitat at the culvert installation site. The Oregon Department of State Lands and the Army Corps of Engineers require wetland restoration to compensate for wetland area and functions lost due to crossing construction. Intertidal habitat occurs between the high and low tide levels. The culvert site and mitigation site are approximately 200 feet apart and both areas are adjacent to Hinsdale Slough. Excavation of the mitigation area would be completed immediately after construction of the culvert crossing.

Location of Proposed Action

The site is between the Umpqua River and State Highway 38, across from the Dean Creek Elk Viewing Area, four miles east of Reedsport, Oregon. T21S., R11W., Sec 33, tax lot 700. 48043 State Hwy. 38 Reedsport, OR 97467.



Conformance With Applicable Land Use Plan

This EA is tiered to and in conformance with the *Coos Bay District Resource Management Plan/Final Environmental Impact Statement* (RMP) (USDI BLM, 1994); and its *Record of Decision* (ROD) (USDI BLM, 1995) and the *Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old Growth Forest Related Species Within the Range of the Northern Spotted Owl (Northwest Forest Plan)* (USDA/USDI, 1994a) and its *Record of Decision* (USDA/USDI, 1994b) as supplemented and amended by:

~ *Management of Port-Orford-cedar in Southwest Oregon Final Supplemental Environmental Impact Statement* (USDA/USDI, 2004) and its *Record of Decision* (USDA/USDI, 2004)

~ *The Final Supplement to The 2004 Environmental Impact Statement to Remove or Modify The Survey and Manage Mitigation Measure Standards and Guidelines* (USDA/USDI, 2007) and its *Record of Decision* (USDA/USDI, 2007).

~ This EA is also tiered to and in conformance with the *Final Programmatic Environmental Impact Statement - Vegetation Treatments Using Herbicides On Bureau of Land Management Lands in 17 Western States (USDI 2007) and its Record of*

Decision (USDI 2007) as well as the *Coos Bay Integrated Noxious Weed Program* (EA OR 120-97-11).

~ The Proposed Action is also in conformance with the *Dean Creek Elk Viewing Area 1998 Amendment to the 1993 Management Plan*, hereby incorporated by reference, which stated the bridge would be replaced.

All of these documents are available for review at the Coos Bay District Office of the Bureau of Land Management, during regular business hours. Some of the documents are available at the Coos Bay and North Bend Public Libraries, the Coos Bay District's Internet Home Page at: http://www.or.blm.gov/coosbay, and the Oregon State Office of the Bureau of Land Management in Portland, Oregon.

Endangered Species Act

Consultation with the U.S. Fish and Wildlife Service (USFWS) as provided in Section 7 of the Endangered Species Act (ESA) of 1973 (16 U.S.C. 1536 (a) (2) and (a)(4) as amended) resulted in Biological Opinion *BO #13420-2008-F-0118*. All appropriate terms and conditions would be incorporated into the Proposed Action.

Consultation with the National Marine Fisheries Service is currently in process. A pre-consultation site visit indicates a letter of concurrence with the Biological Assessment that the project would have a "may affect, not likely to adversely affect" opinion.

Purpose and Need for Proposed Action

Purpose of the Project

A reasonable action alternative must meet the objectives provided in the ROD/RMP (USDI BLM 2004) for projects to be implemented in the planning area. The ROD/RMP and applicable statutes specify the following objectives to be accomplished in managing the lands in the project area:

1. Identify cultural resources localities and manage them for public, scientific and cultural heritage purposes (p.40).

2. Manage scenic, natural and cultural resources to enhance visitor recreation experience expectations and to satisfy public land users (p.46).

3. Conserve and protect designated cultural resources for future generations (p.40).

4. Develop and maintain a transportation system that serves the need of users in an environmentally sound manner (p.69).

Need for the Project

This project responds to the need to implement a section of the National Historic Preservation Act of 1966, as amended. This property is potentially eligible for inclusion on the National

Register of Historic Places (NRHP). It is Bureau policy to manage such places as if they were already on the NRHP list. The proposed project as described in this Environmental Assessment would re-establish road access to Spruce Reach Island, so that routine maintenance and restoration activities can be undertaken at the O.H. Hinsdale rhododendron garden.

Decision Factors
In choosing the alternative that best meets the purpose and need, consideration would be given to the extent to which each alternative would:

- Provide safe access from Highway 38 to the island.
- Provide cost effective management that would enable implementation of these management objectives while providing collateral economic benefits to society.
- Comply with applicable laws and Bureau policies including, but not limited to: the Clean Water Act, the Endangered Species Act, the O&C Act, the Magnuson-Stevens Fishery Conservation and Management Act and the Special Status Species Program.
- Determine if a "Finding of No Significant Impact" (FONSI) is appropriate, or should an Environmental Impact Statement (EIS) be prepared if the proposed action would result in a finding of significant impacts to the human environment or the resources therein. If impacts are significant, determine if the project could be modified to mitigate the impacts so an EIS would not be necessary.

Public Involvement/Scoping
The primary purpose of scoping is to identify agency and public concerns relating to a proposed project and help define the environmental impacts to be examined in detail in the EA. The public was notified of the proposed project and EA through publication in the World Newspaper on September 3, 10, 17 and 24, 2008. A letter was sent to those groups and individuals who have indicated their desire to be contacted for projects such as this one. The scoping period for the project was September 3, 2008 through October 3, 2008. No responses were received.

Issues Identified
Safe access to the island with a motorized vehicle is the reason for this project.

Chapter 2. Description of Alternatives

No Action
The Bureau staff, contractors, volunteers and the public would not have safe and reliable access to the BLM lands on Spruce Reach Island. Currently there is a foot bridge to the island which is not easily accessible and is intended to be used temporarily. In addition, the parking available is limited.

Description of Proposed Action
The Proposed Action is to install a 10-foot diameter circular aluminum culvert, 66 feet long and mitered at both ends, in an unnamed tidal tributary to the Umpqua River, and construct a two lane, impervious-surfaced road 20 feet wide x 110 feet long between Highway 38 and Spruce Reach Island.

Approximately 300 cubic yards of material would be excavated from the existing waterway to prepare the foundation for the culvert and allow placement of the bottom of the pipe at the target depth of mean lower low water (the average height of the lower low tides). The 1.2-foot deep x 20-foot wide x 66-foot long foundation would consist of geotextile mat, 6 inch rock free of fines, and ¾ inch minus rock. Total fill for the project, including the foundation material, is roughly 900 cubic yards.

Culvert installation would take place during two or three consecutive low tides when the bottom of the channel is exposed. The project area is exposed for several hours during low tide but the upstream marsh continues to discharge water (< 10 gallons per minute) until the next tidal inundation. Immediately after the tide drops below the installation site a sand bag dam less than 5 feet tall would be placed upstream and water coming from the marsh would be pumped around the construction zone and discharged to the downstream channel. During construction the sand bag dam would be partially disassembled during the incoming tide to allow upstream fish movement. Following construction, sand bags would be removed from the channel and disturbed areas adjacent to the fill would be seeded with native grass and covered with straw mulch.

All removal and fill would be accomplished with an excavator located on the shoulder of Highway 38 and the newly constructed fill. No equipment would be allowed in the channel. Excavated material would be trucked to an upland disposal site within the Dean Creek Elk Viewing Area and fill material would come from off-site commercial sources.

The BLM would restore 0.065 acre of intertidal low marsh habitat to mitigate for the loss of 0.065 acre of intertidal habitat at the culvert installation site. The culvert site and mitigation site are approximately 200 feet apart and both areas are adjacent to Hinsdale Slough. Excavation of the mitigation area would be completed following construction of the culvert crossing, and the excavated material would be transported to an upland disposal site. The surface of the new intertidal area would start at the level of the existing marsh to the south and gradually increase in elevation to prevent ponding and fish stranding at low tide. Side slopes at the mitigation site would be planted with willows from the area. Propagules from estuarine plants are expected to eventually colonize the new intertidal habitat.

Project Design Features

1. Project would occur during “In-water work period” as established by the Oregon Department of Fish and Wildlife unless an extension or waiver is obtained.
2. All waste material would be removed from the site to an approved disposal site as determined by an interdisciplinary team.
3. Storm run-off from State Highway 38 would be captured before it drains down the SRI access road and dispersed laterally through roadside vegetation.
4. All pump intake nozzles would require screens to prevent entrapment of fish and aquatic life. In-take nozzles would be isolated from substrate to prevent fines from being returned in suspension to the slough below the work site. Pumped water would be filtered before being returned to the slough below the work site. Pumped water would be returned to the slough immediately below the work site to avoid prolonged dewatering and stranding of fish below the work site.

5. Willows for the mitigation site would be obtained outside the mitigation site.
6. The proposed project is outside of the zone of mandatory restrictions as outlined in the US Fish and Wildlife Service's (USFWS) Biological Opinion BO #13420-2008-F-0118, but is within distances where restrictions are recommended. If possible, the project should be scheduled outside of the critical nesting season. This recommendation would allow the project to occur between August 5th and March 1st. If the project must be scheduled to occur between April 1 and September 15th, daily timing restrictions are recommended. This would allow potentially disturbing activities to be scheduled only during the time period from two hours after sunrise until two hours before sunset.
7. Delineate the site north of the wetland mitigation area prior to construction to assure the Bureau Sensitive *Metzgeria violacea* would not be impacted by intrusion of heavy equipment or accumulation of excess brush or soil.

Alternatives Considered but Eliminated from Analysis
Construct a bridge to the island: This alternative was dismissed because of the high costs associated with building a bridge, especially to an area that is designated as "authorized access only." A bridge was estimated to cost four times as much as a culvert.

Chapter 3. Affected Environment and Environmental Consequences

Vegetation

Affected Environment
The area of proposed action is a developed area that has sustained much disturbance through the years. The site consists of a vegetative mud flat where a variance of both native and non-native flora proliferates in a wet environment. No Special Status plant species were located in the proposed project area. The endangered western lily (*Lillium occidentale*) was not located even though there is minimal potential habitat in the mitigation area.

Botanical surveys for Special Status vascular and some nonvascular plants were done in 1995 of Spruce Reach Island and areas adjacent to the proposed action area. Trees were not climbed, but litterfall was examined for epiphytic species. A survey of the mitigation area determined there are no Special Status Species within the mitigation site.

A Bureau Sensitive rare liverwort species, Whiskered veilwort, (*Metzgeria violacea*), Oregon Natural Heritage Information Center (ORNHIC) list 2, (a taxa threatened with extirpation or presumed to be extirpated), was located close to the mitigation site on a willow plant. The occurrences in the Pacific Northwest run along the coast from Alaska to northern California, and inland to the North Cascades in Washington according to the species fact sheet. Due to its confusion with *Metzgeria temperata* and *M. conjugata*, the population distribution is unclear. The species form mats or can be found mixed in with other bryophytes on trunks of trees and shrubs. It appears to do well in partial to full shade provided by the willows, salmonberry and other shrubs within a bog or in a high moisture environment.

The BLM is directed to conserve Special Status Species (SSS) and ecosystems upon which they depend (BLM Special Status Species Manual 6840, USDI 2001). Special Status Species include Federally Proposed species, species listed as Threatened or Endangered (T&E), Candidate species, State listed species, and Sensitive species.

Environmental Consequences
No Action
Habitat would continue to follow the progressive successional stages that are typical of mature Sitka Spruce fragmented forest.

Proposed Action
The Bureau Sensitive *Metzgeria violacea* was located just north of the proposed mitigation project site on the base of a willow. The proposed wetland mitigation process consists of removing sedges, grasses, blackberries, some low growing forbs from a nearby area within the bog, so no overhead canopy would be removed. This would maintain the desired shade level for the species. The site would be protected from project activity as referred to in the BLM Manual 6840. The site would be flagged and buffered to ensure no intrusion of either heavy equipment or excess brush or soil can impact the existing population or its substrate. The project should also promote more riparian vegetation growth due to the lowering of the landscape.

Adjacent shrubs and trees would continue to provide substrate and shade for the Special Status Species population. No cumulative effects are expected in either the culvert installation site or the mitigation site.

Wildlife

Affected Environment
Suitable habitat is present on Spruce Reach Island for northern spotted owls and marbled murrelets. The habitat was surveyed for marbled murrelet in 1996 and the surveys determined that the habitat was occupied by marbled murrelets. There are no known sites for spotted owls within the suitable habitat. The nearest suitable trees which are likely to be used by murrelets or spotted owls are approximately 190 yards from the site of the proposed culvert, or approximately 140 yards from the house on Spruce Reach Island. The suitable habitat includes approximately 36 acres of occupied murrelet stands and suitable spotted owl habitat. No suitable habitat for listed species would be removed or modified as a result of this project. Scheduling the project outside of the nesting season would result in a determination of “no effect” to spotted owls and marbled murrelets. If the project is scheduled to occur within the nesting season, the determination of effects would be “may affect, not likely to adversely affect” spotted owls and marbled murrelets because of potential disturbance that does not reach the level of disruption of normal activities.

The house on Spruce Reach Island serves as a roosting place for several species of bats, one of which is known to be a SSS.

Environmental Consequences

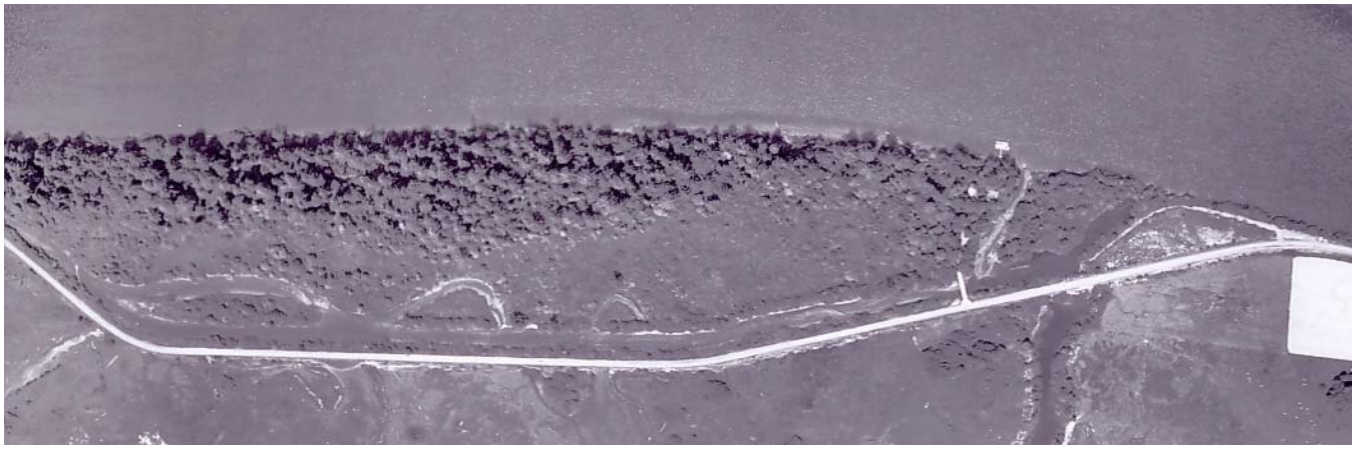
No Action
Impacts to wildlife or wildlife habitat associated with the no-action alternative would be negligible on the population scale. The smaller, less mobile species such as mollusks, amphibians, and small mammals, and their current habitat would be less negatively impacted on a local level, however, impacts at the population scale for all wildlife species would not be measurably different from the action alternative.

Proposed Action
The project is outside of the distance where seasonal or daily timing restrictions are mandatory for either spotted owls or marbled murrelets. The restrictions are recommended, if possible. If tide levels make it impossible to follow the recommended restrictions, then the project may proceed without any restrictions. No additional consultation with the USFWS would be required.

No other Special Status wildlife species or migratory birds are expected to be negatively impacted by the culvert installation or wetland mitigation as no habitat would be affected. Bat species that currently use the buildings as roost sites are not expected to be affected, because the proposed project does not involve any contact with or use of the buildings which might disturb roosting bats.

Hydrology

Affected Environment
The 1939 aerial photo below shows a bridge at the site of the proposed culvert installation. The bridge is right of center and it connects Highway 38 to the south and Spruce Reach Island to the north. Hinsdale Slough drains under Highway 38 through a tide gate structure, passes east of the bridge, and flows north to the Umpqua River. The unnamed, tidally-influenced slough north of the highway drains east to Hinsdale Slough and west to Koepke Slough which is just beyond the left edge of the photo. The meanders or loops of the unnamed slough were cut off during construction of the highway in the 1930s and the channel was straightened between the road and the island.



The bridge, condemned in 2006 and removed in 2007, is visible in the 2002 aerial photo below as are the meanders. Sediment deposition and vegetation growth have changed the appearance of the channel network. Koepke Slough is visible along the left edge of this more recent photo.

Wetlands

The following photo was taken from Highway 38 in 2008. The unnamed tidal channel, site of the proposed culvert installation, is in the foreground and it is flowing from left to right. The elevation of mean higher high water, the average of all observed higher high tides, is just upslope from the remnant bridge piling closest to the channel on the far bank. Tidal elevation is equal to or less than mean higher high water approximately ninety-five percent of the year. Wetland habitat regulated by State and Federal law occurs between the channel and the tallest remnant piling on the far bank. The BLM must restore wetland to mitigate for the loss of this existing habitat.

Below is a 2008 photo of the mitigation area looking north from Highway 38 across Hinsdale Slough. The upland to the right of the large spruce tree would be converted to an intertidal area tied to the elevation of the foreground marsh.

Stream Flow
Water velocity in the existing channel at the culvert installation site is relatively slow during the outgoing tide. Measurements taken in October 2008 indicate that average water velocity is equal to or less than 0.79 feet per second for flows at or below mean higher high water. The bed and banks of the existing channel have adjusted to tidal flow and they are very stable (i.e. they hold their shape and erosion is negligible).

Water Quality
Water clarity naturally varies in the tidal channels adjacent to the main stem Umpqua River. During the summer when runoff is low the water is relatively clear. Wave action along the banks of the Umpqua and tidal action can however cloud the water by suspending silt, sand and organic matter. Water clarity during the winter is dependent on runoff in the Umpqua River. Storm flows deliver suspended sediment to the lower reaches of the river including the channels surrounding Spruce Reach Island.

Environmental Consequences
No Action

Wetlands
The intertidal marsh in the vicinity of the former bridge would continue to provide habitat for aquatic and terrestrial species, and the elevated area at the mitigation site would be infrequently inundated by higher winter flows.

Stream Flow
The bed and banks of the existing channel would remain stable and water velocity would remain relatively slow throughout the tidal cycle.

Water Quality
Water clarity would naturally vary depending on tidal runoff, the action of wind driven waves and winter flows.

Proposed Action

Wetlands
Approximately 0.07 acre of intertidal marsh and seagrass habitat would be permanently lost at the culvert crossing site. Mitigating for this loss involves restoring approximately 0.07 acre of upland to intertidal marsh habitat. The surface of the new intertidal area would start at the level of the existing marsh to the south and gradually increase in elevation to prevent ponding of water and fish stranding at low tide. The banks surrounding the mitigation area would be planted with native vegetation and propagules from estuarine plants would eventually colonize the gradually sloping bed.

The Oregon Department of State Lands and the Army Corps of Engineers have reviewed and approved this mitigation proposal.

Stream Flow
Below the elevation of mean higher high water, average water velocities in the proposed culvert would be similar to average water velocities in the existing channel because the culvert and channel have similar cross sectional area. Average water velocities in the culvert at water surface elevations greater than mean higher high water would be greater than the average water velocities in the existing channel. However, these higher flows occur infrequently (approximately 5% of the year), average velocities would likely not exceed average culvert velocity criteria established by the National Marine Fisheries Service (NMFS 2008, p. 72), and channel bed and bank erosion would be negligible. The Hinsdale Slough tide gate was removed for two to three weeks in late 2005 and relatively high velocity flows through the five foot diameter tide gate structure did not erode the downstream channel. Flow through the proposed culvert would be comparatively slow.

Water Quality
Increased turbidity is expected at the culvert installation and mitigation sites for a few tide cycles following construction. Silt, sand and organic material would be mobilized and deposited in response to channel changes. Turbidity caused by wave action along the Umpqua River shore is typical so project-related impacts would be comparatively minor and short-lived.

Minor stream bed erosion is expected within a few feet of the culvert inlet following installation because the bottom of the pipe would be placed below the level of the existing stream bed. Channel adjustment would likely happen during the first few tidal cycles after construction as sediment is deposited in the culvert and the stream establishes a stable gradient. Once the bed adjusts and vegetation is established on any disturbed areas, channel and bank erosion would be negligible.

Fisheries

Affected Environment
The aquatic habitat and aquatic life in the vicinity of the project site are influenced by tidal patterns and seasonal flooding of the Umpqua River estuary. At high tide, water is several feet deep and fish find food and cover in the scrub-shrub and emergent vegetation of the marsh upstream from the proposed culvert installation site. At low tide, the surface of the marsh is exposed and water is less than one foot deep in the slough channel. Fish likely move in and out of the marsh with the tides. Miller and Sadro (2003) studied juvenile coho in South Slough near Charleston, Oregon and found that the movement of smolts implanted with transmitters corresponded to the direction of tidal flow.

No fish surveys have been done in the tidal habitat between Highway 38 and Spruce Reach Island, but several fish species likely pass through or live in the area. Fifty-six fish species, including juvenile coho and Chinook, have been collected by the Oregon Department of Fish and Wildlife in the Umpqua River upstream and downstream from Spruce Reach Island (Mullen 1977; Johnson et al. 1986; ODFW 2007, unpublished).

Environmental Consequences
No Action
The intertidal marsh in the vicinity of the former bridge would continue to provide habitat for fish and other aquatic species.

Proposed Action
Less mobile fish and aquatic life within approximately 200 feet of the culvert installation and mitigation sites would be exposed to increased suspended sediment during construction. Culvert installation would occur during two or three consecutive low tides and excavation of the mitigation area would occur during one low tide following culvert placement. Disturbed soil would be subjected to tidal currents and this would produce periods of increased turbidity lasting several hours. Construction and channel adjustment related turbidity is expected to decrease to background levels in less than two weeks.

Pumping or piping water around the culvert installation site during crossing construction would interrupt low flow passage for two consecutive low tides; however, fish passage in the existing channel during low tide is probably minimal. Once the culvert is in place, juvenile and adult fish would experience velocities similar to the existing channel during passage to and from the upstream marsh. The mitigation site would be available to fish and other aquatic organisms immediately after excavation. Habitat would improve over the summer as the sloping bed of the mitigation area becomes colonized by estuarine plants.

Fish passage would continue at the site post-construction because the average water velocity in the culvert would not exceed the average culvert velocity criteria established by the National Marine Fisheries Service for adult and juvenile salmonid passage. According to the February 2008 Anadromous Salmonid Passage Facility Design document, the maximum allowable average velocity for pipes 60 to 100 feet long is 5.0 feet per second for adults and 1.0 feet per second for juveniles. Average culvert inlet and outlet velocities modeled with FishXing Version 3 fish passage software were equal to or less than 0.84 feet per second for flows at or below

mean higher high water. Calculated average channel velocities based on field measurements were equal to or less than 0.79 feet per second over the same tidal range.

Recreation

Affected Environment

BLM's current public access policy for the island is "authorized access only." This is primarily as public interest is in the gardens, which draw attention only when in bloom, approximately two to three months out of a year. There is also occupied marbled murrelet habitat on the western end of the island. The old bridge had a locked gate on it as did the middle access point on the east side of the island. The BLM has accommodated all requests to view the gardens, and would continue to do so. Special requests such as weddings would be decided on a case-by-case basis under the Special Use Permit program, considering the number of people, number of vehicles, length of stay, time of year, etc.

There are Oregon Department of Transportation (ODOT) regulations regarding public access as well. The "authorized access only" policy allows BLM to comply with ODOT regulations for this project without having to create a much larger and costly project, such as creating a left turn lane on Hwy. 38.

The BLM intends to pursue a Memorandum of Understanding with the American Rhododendron Society to assist in garden management, maintenance and conducting tours for the public.

Environmental Consequences

No Action

Without vehicle access to the island, the staff, volunteers, contractors and the public would not be able to safely access the gardens. There is a temporary foot bridge to the island at the base of the slope along highway 38. The bridge was intended to be a temporary fix for staff to document and maintain the gardens and keep the blackberries at bay. It is not considered a safe, long-term solution for the volunteer and contractor assistance we require, as well as for the limited public access to the gardens. Vehicles are currently very limited in parking options and safety along the busy highway is a concern.

Proposed Action

The public would be able to safely access and enjoy guided tours of the gardens in bloom as well as visit the island with permission any time of the year. Limited parking is available on the island. BLM staff would coordinate guided tours, as requested. Interest in the gardens is expected to increase once access is restored. The BLM staff would likely set up a schedule to include one or two tours per day on the weekends during the blooming season, depending on weather, and arrange to accommodate individual requests as needed.

Cultural Resources

Affected Environment
The O. Howard Hinsdale rhododendron garden occupies about 5 acres of land adjacent to the Dean Creek EVA, north of Highway 38. About 75 % of the garden is on the eastern end of Spruce Reach Island, while the remainder is on the adjacent mainland. This historic garden is a cultural resource, and has been determined to be potentially eligible for inclusion on the NRHP. It is Bureau policy to manage such resources as if they were on the NHRP. This requires routine maintenance and plant care, however access to the island portion of the garden is now limited to a temporary pedestrian bridge subject to tidal influx.

Mr. Hinsdale planted many unusual specimens, some of which are rare. This garden was neglected for many years after Mr. Hinsdale's relocation in 1969, which resulted in loss of many plants. Routine maintenance of the garden area is required to maintain the garden's health and vigor. Over 500 individual rhododendron, camellia and azalea plants have been identified, and these require expert care. The diversity and old-world origin of many specimens indicates this garden may have value as an horticultural research laboratory, as well as a fine example of a classic "English Woodland" garden.

Environmental Consequences
No Action
Our partnership with the ARS involves their rhododendron specialists accessing the garden during blooming season to assist in identification and shrub care. Without safe road access, continued routine maintenance, restoration activities and research will be difficult, if not impossible.

Proposed Action
Safe vehicular access to the O. Howard Hinsdale rhododendron garden will permit routine garden maintenance and specialized shrub care to be performed. This will assist in perpetuation of this cultural resource for the foreseeable future, which is a stated goal of BLM cultural resource policy. As well, this action would make guided tours available to the public when the garden is in bloom and to maintenance workers and researchers regardless of tidal conditions throughout the year.

Solid and Hazardous Waste

Affected Environment
A hazardous material Level I survey was conducted on the project area. There is a covered pile of creosote wood near the house which will be addressed separately. No hazardous material sites were found in the project or mitigation sites. There are no known past uses that would indicate a potential solid or hazardous waste problem.

No Action
No project-related effects from solid or hazardous wastes would occur.

Proposed Action
The proposed action is subject to applicable provisions for Spill Prevention, Control and Countermeasures under Oregon Department of Environmental Quality provisions (Oregon Administrative Rule 340-108). No effects from solid or hazardous wastes are anticipated from the proposed action, unless an accidental release of hazardous materials occurs because of operations. Depending upon the substance, amount, and environmental conditions in the area affected by a release, the impacts could range from short-term to more extensive and longer lasting. Minor amounts, less than 2 gallons, of diesel fuel, gasoline, or hydraulic fluid leaking from heavy equipment onto a road surface, with little or no chance of migrating to surface or ground water before absorption or evaporation would be an example of minimal impact.

If a petroleum substance is released at or above the State of Oregon reportable quantity of 42 gallons, or has the likelihood of reaching ground or surface water regardless of the amount, it could cause more serious impacts to the environment. This impact could range from localized contamination of soil and vegetation, to entry into surface water and toxic effects upon fisheries and aquatic life habitat. The greater the quantity of material released, the more likely that adverse effects would occur. These effects would depend on variable pathway conditions such as seasonal water levels, flow velocity, and rainfall.

Other Resources Not Affected

Environmental Justice - The proposed areas of activity are not known to be used by, or are disproportionately used by, American Indians, minorities, or low-income populations for specific cultural activities, or at greater rates than the general population. This includes their relative geographic location and cultural, religious, employment, subsistence, or recreational activities that may bring them to the proposed areas.

None of the following critical elements of the human environment are located within the project area or within a distance to be affected by implementation of either alternative:

- Areas of Critical Environmental Concern
- Farmlands, Prime or Unique
- Wild and Scenic Rivers
- Wilderness values

Chapter 4 List of Agencies and Individuals Contacted

Persons/Agencies Consulted:

Oregon Department of Transportation – Highway Approach Permit
Oregon Department of Fish and Wildlife – Fish Passage Permit
Oregon Department of State Lands and the United States Army Corps of Engineers – Removal-Fill Permit
National Marine Fisheries Service – Endangered Species Act Consultation
Confederated Tribes of the Coos, Lower Umpqua and Siuslaw

Preparer(s): BLM staff

Nancy Zepf – Outdoor Recreation Planner/EA Lead
John Colby – Hydrologist
John Chatt – Wildlife Biologist
Jennie Sperling – Botanist
Pat Olmstead – Fish Biologist
Steve Samuels – Archeologist/Cultural Specialist
Todd Hicks – Civil Engineering Technician
Paul Gammon – Hazardous Materials

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